Virginia Wildlife

AUGUST 1966

VOLUME XXVII / NUMBER 8

20 CENTS

Virginia Wildlife

Dedicated to the Conservation of Virginia's Wildlife and Related Natural Resources and to the Betterment of Outdoor Recreation in Virginia

Published by VIRGINIA COMMISSION OF GAME AND INLAND FISHERIES
Richmond, Virginia 23213

CONSERVATION COMMUNICATIONS AWARD—1965

Presented to *Virginia Wildlife* by the VIRGINIA WILDLIFE FEDERATION in cooperation with the NATIONAL WILDLIFE FEDERATION and the SEARS-ROEBUCK FOUNDATION

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COVER: Showing his distinctive black bandit's mask as he approaches, his black-ringed bushy tail as he retreats, and leaving a flat-footed track like that of a tiny bear where he has been, the raccoon is likely to be found wherever big hardwood timber and water are plentiful. Color photograph by Leonard Lee Rue III.

SUBSCRIPTIONS: One year, $1.50; three years, $3.50. Give check or money order, made payable to the Treasurer of Virginia, to local game commission employee or send to Commission of Game and Inland Fisheries, P. O. Box 1642, Richmond, Virginia 23213.

Virginia Wildlife is published monthly at Richmond, Virginia, by the Commission of Game and Inland Fisheries, 7 North Second Street. All magazine subscriptions, change of address notices, and inquiries should be sent to Box 1642, Richmond, Va. 23213. The editorial office gratefully receives for publication news items, articles, photographs, and sketches of good quality which deal with Virginia's soils, water, forests, and wildlife. The Commission assumes no responsibility for unsolicited manuscripts and illustrative material. Credit is given on material published. Permission to reprint text material is granted provided credit is given the Virginia Commission of Game and Inland Fisheries and Virginia Wildlife. Clearances must be made with photographers or artists to reproduce illustrations.

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EDITORIAL

A Change of Course

WITHOUT too much fanfare a significant milestone in Virginia's history has been reached, a turning point passed, and in years to come it may be possible to look back to 1966 and see that in this year the course and direction of progress in our state was perceptibly altered.

For two years a Study Commission created by the General Assembly had taken a long, hard look at Virginia's industrial growth and population explosion, and at their impact upon the state's landscape and resources. With the report of its Study Commission in hand, the General Assembly at its 1966 session quickly adopted the proposed Virginia Outdoors Plan; declared it to be "the public policy of Virginia that the preservation of open space lands is in the public interest"; and created on July 1 a permanent Commission charged with creating and putting into effect a long-range plan for the preservation and conservation of those areas and resources best adapted to the development of parks, forests, camp sites, fishing and hunting grounds, and scenic land and water areas. We have a long-standing commitment to progress. This is a commitment to progress in a new direction.

For hundreds of millions of years life on earth has been molded and guided by its natural environment. Only in the present brief moment of historic time has the opposite effect occurred, when a single species—man—has acquired the capability of altering radically the environment in which it lives. This very alteration of our environment is what we know as human progress; but with the capability has come the need for restraint. We do need cities and suburbs, highways and industries; but we also need forests, marsh lands, open spaces, and a rich diversity of other forms of life to share our habitat with us. Perhaps we need a better yardstick for measuring progress than we have used in the past.

Raymond Dasmann (page 4, this issue) suggests the use of wildlife as an index of progress in improvement of the quality of urban life. We might go even further and suggest that the accessibility of open space and the abundance and variety of wildlife species are indicative of the quality of the human environment almost anywhere. This is an oversimplified statement of the case, to be sure. But the fact is that progress becomes synonymous with pollution, ugliness and barren landscapes only when the word "progress" is incorrectly defined. We can have material progress, an abundance of resources, and a pleasant outdoor environment, all at the same time. Virginia's Outdoors Plan of 1966 is designed to prove that we can.—J. F. Mc.

LETTERS

Reporting Fish Kills

I have just finished reading your very fine editorial in the June 1966 issue of *Virginia Wildlife*. I hope it will be called to the attention of every editor of state fish, game, and conservation magazines.

Certainly, enlisting the cooperation of all anglers in reporting fish kills is a valuable endeavor. I think in Pennsylvania every pollution-caused fish kill that occurs is reported to the fishery officials. This has come about through an education campaign of the fisheries and the health departments. I believe that many kills are prevented from occurring just because of the certainty of their embarrassing disclosure.

Again my compliments for your valuable editorial.

James R. Harlan, Conservation Consultant
Federal Water Pollution Control Administration
U. S. Department of the Interior

Remembers White Rabbit

I HAVE been a reader of *Virginia Wildlife* for many years and can't put in words the amount of pleasure I get from it.

I was very much amused by the picture of Mr. Maben's son holding the white rabbit ("Letters," *Virginia Wildlife*, February 1966). I, too, killed a white rabbit, but as you will notice from the picture enclosed, it was some time ago—53 years to be exact. I was then 16 years of age. I had obtained permission from a nearby landowner to hunt on his land. The rabbit was in the bed, pretty well concealed when I saw it.

I have hunted consistently from that time to the present and have never seen an oddity like it since.

C. Frank Seibert
Woodstock

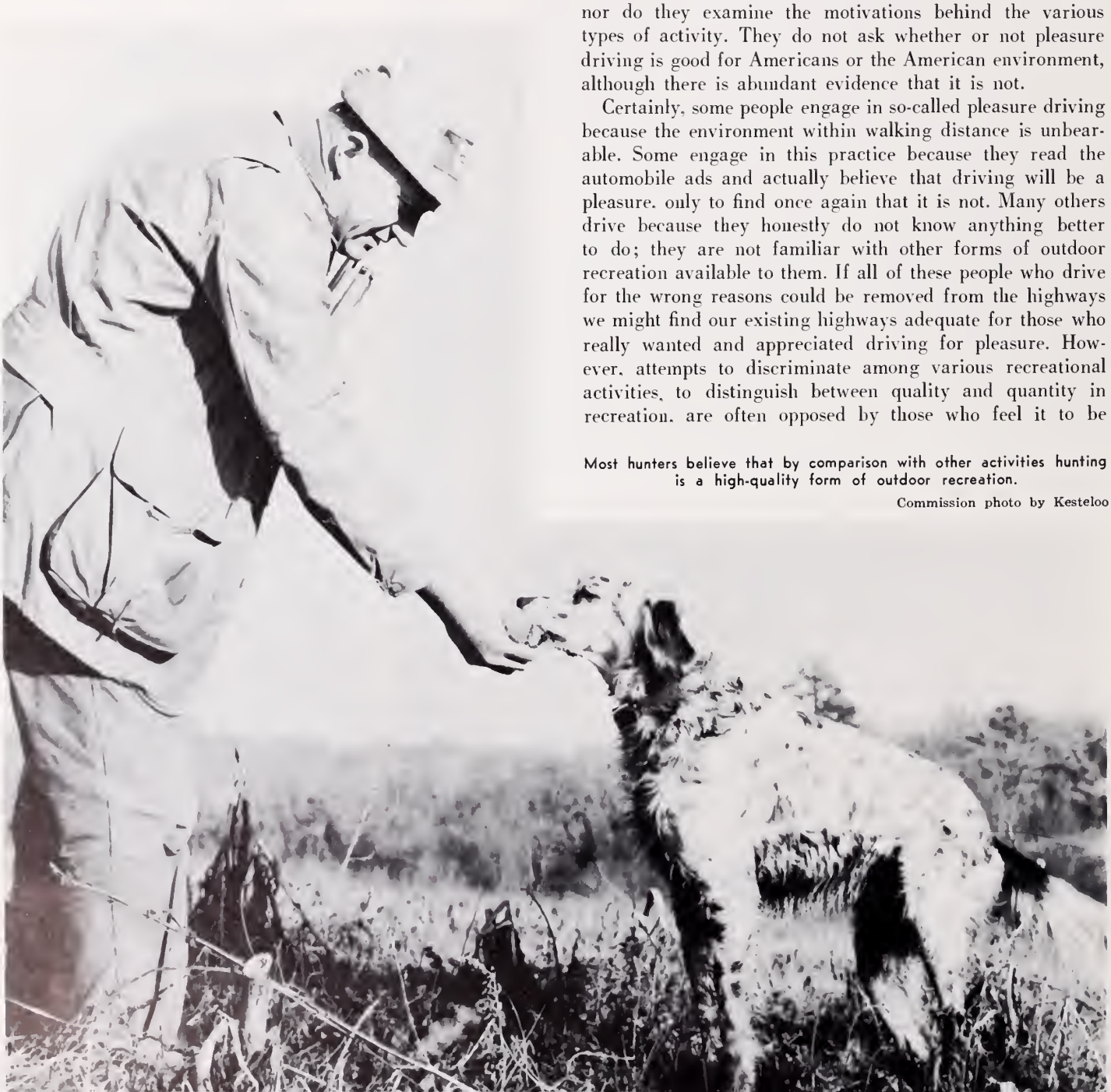
Wildlife and Outdoor Recreation

By RAYMOND F. DASMANN
The Conservation Foundation, Washington

FOR reasons that are obscure to me, but no doubt are related to the organization of government, wildlife is often considered as something apart from other outdoor recreational resources. Consequently the pursuit of wildlife through hunting or other means is often given relatively little attention in planning for outdoor recreation. Fishing receives more notice since it can be related to reservoirs proposed for construction by such agencies as the Corps of Engineers.

In efforts to spend properly the public money set aside for outdoor recreation we have engaged in many surveys and studies of the recreational use of lands and resources. Most frequently these are attempts to tally the ways in which the American public spends its leisure time, or at least those that they will admit to. We find, for example, that more Americans drive automobiles around, presumably for sightseeing and pleasure, than engage in any form of outdoor recreation. Such a statistic has been used in justification for expansion of our highway systems. The reports, however, do not give much if any space to consideration of the relation of outdoor activities to actual human wants or needs, nor do they examine the motivations behind the various types of activity. They do not ask whether or not pleasure driving is good for Americans or the American environment, although there is abundant evidence that it is not.

Certainly, some people engage in so-called pleasure driving because the environment within walking distance is unbearable. Some engage in this practice because they read the automobile ads and actually believe that driving will be a pleasure, only to find once again that it is not. Many others drive because they honestly do not know anything better to do; they are not familiar with other forms of outdoor recreation available to them. If all of these people who drive for the wrong reasons could be removed from the highways we might find our existing highways adequate for those who really wanted and appreciated driving for pleasure. However, attempts to discriminate among various recreational activities, to distinguish between quality and quantity in recreation, are often opposed by those who feel it to be



Most hunters believe that by comparison with other activities hunting is a high-quality form of outdoor recreation.

Commission photo by Kesteloo

Photo by Leonard Lee Rue III

Apart from the extent to which it encourages hunting, wildlife contributes to the recreational value of land in many ways.

undemocratic to make such value judgments. One day of using a skateboard on a city street or one day of backpacking in a mountain wilderness equals one man-day of recreation. A day of canoeing equals one day of shooting pool in a back room. Obviously, these activities do not have such equal value and it is the duty of experts and public officials to make value judgments, to find out what people really need and what will benefit them.

Most hunters will believe that hunting, by comparison with many other forms of recreation, represents a high quality outdoor activity. This is not just an opinion. Hunting requires at least a degree of individual participation in wild nature, and at best a wholehearted matching of outdoor skills, developed from experience in the wild country, with the wits of some wary, wild animal. It is not to be equated with simple sightseeing, trailer camping, or the bouncing of a superball. Anyone who has hunted, however, recognizes the wide range in quality between various types of hunting experiences—at one extreme bagging a bear in the wilderness; at the other accidentally shooting a cow on a farm. The two are not to be equated even though both represent one man-day of hunting.

Apart from the extent to which they encourage the pursuit of hunting, wild animals contribute to the recreational value of land in many ways. It is worthwhile to consider some of these contributions, realizing that we are now a nation of city dwellers, and will become increasingly so in the future. The farm boy has become a scarce item in our population statistics. We now have a population in which most people are not only urbanites, but sons-of-urbanites, and are raising third-generation urbanites in vast numbers. Most of these people have only limited time for outdoor recreation—a few hours after work or school during weekdays, weekends, and a few weeks of holiday and vacation in each year. How can the presence of wildlife enrich their lives, contribute to the improvement of their leisure hours? To answer this, I will draw from personal experience, realizing that many others have shared in these.

Recently, I have moved to Washington, D. C., and thus joined the ranks of the majority of Americans in urban life. However, where I live is not typical of urban areas since the house is surrounded by trees and shrubs. These support a large neighborhood population of squirrels and a host of wild birds. I regularly see and hear mockingbirds, cardinals, blue jays, chickadees, mourning doves, and other species. Each morning I awake to hear bird song, and each evening the volume of mockingbird singing increases as the day nears its end. Although I do not spend much time watching squirrels or listening to birds, their presence adds a highly valued quality to my environment. When I am disturbed by traffic jams, polluted water, and smoggy air, these wild creatures remind me that Washington can't be all bad.

I am also aware that my professional career was probably determined by the presence of Golden Gate Park in San Francisco. Here I first learned to identify birds, how to tell one duck from another, how to find rabbits, raccoons, and skunks, and some of the rules for studying wildlife. Without wildlife, Golden Gate Park would have been a place only where I learned to play baseball, football, and the usual city-based sports. With wildlife, it became a gateway to life in the wild country of the world. I believe therefore that the maintenance of the widest variety of wild animal life in the urban environment is of potentially great importance to America. To maintain such variety within our cities requires attention to all other forms of urban beauty and open space. I would suggest that we explore the use of wildlife as an index of our progress in urban beautification and improvement of the quality of urban living. The city with the greatest variety and number of wild birds within it may well be the city with the highest quality urban environment. A city

(Continued on page 21)

Photos by Leonard Lee Rue III

Their presence adds a highly valued quality to the environment whether one spends much time watching and listening to them or not.

From an address delivered to Minnesota Outdoor Recreation Resources Commission, St. Paul, Minnesota, March 25, 1966.

FEE FISHING FOR TROUT

By CHARLES H. PEERY
District Game Biologist

WHAT pre-formed notion do *you* have about Virginia's fee-fishing program on Big Tumbling Creek in Russell, Smyth and Washington Counties?

If you are a "dyed in the wool" trout fisherman and haven't tried this type of fishing, most likely you will have the opinion that Virginia is operating a "fish market" for the novice angler. This type fishing, the first of its kind in Virginia, is now well into the third year of operation. Over 50,000 trout fishermen have had this experience so far, and they keep coming back for more.

Trout fishing, like so many other forms of recreation, provides a certain degree of relaxation, sense of satisfaction, a feeling of accomplishment, and, at times, moments of exasperation. Fishing, hunting, golf, bowling, or whatever your favorite sport might be, all present a challenge to those who participate. Both the amateurs and experts at angling are finding pleasure on Big Tumbling Creek. In a real sense, the fee-fishing concept is a sporting application of the age old law of supply and demand. The primary trout fishing program of the Commission of Game and Inland Fisheries is a put-and-take process. Designated streams are stocked just prior to opening on the first Saturday in April of each year, then stocked again in early May, with the larger streams receiving another small allotment in June. By that time water flow becomes so low in most streams that further stocking is useless, and a major portion of the revenue from the sale of trout licenses has been expended. Conventional put-and-take trout fishing is over, for another year. The fee-fishing program is helping to alleviate this situation. The one dollar each angler spends for a daily permit pays the cost of additional trout production. After two and one half years of operation of the fee-fishing program, with over fifty thousand "satisfied" customers, the Virginia Game Commission is convinced that fee-fishing for trout is here to stay. About the only thing left to be done is to make this type program available to more anglers of the Commonwealth. To select a stream for this type project is not as simple as one might suspect. The stream itself is of prime importance. Accessibility to the stream and certain trout holding facilities must be available. And, naturally, the nearness to a state-operated trout hatchery is of importance.

A thorough search of the potential trout streams of Virginia may produce others as suitable as Big Tumbling Creek, but Big Tumbling is about as ideal as can be expected. First of all, the state must have complete control of the fishing rights. On Big Tumbling, the Commission owns two miles, has perpetual fishing rights over another two miles, and at the present time is attempting to negotiate for an additional 1.3 miles downstream. Big Tumbling has a one-way access necessary to funnel the anglers to a check station, and this too helps with the law enforcement aspect of the program. Above all, Big Tumbling is a large stream: a stream of rapids and pools, littered with large boulders which create essential cover for trout. Except during very dry weather, water flow remains fairly constant all year. Water flow on Big Tumbling Creek may no longer be a problem to the fee-fishing program should a proposed lake be built on the headwaters of the stream. To facilitate daily stocking of trout, concrete holding ponds at the headquarters area beside the stream permit the holding of as many as five thousand fish at one time. Trout are hauled from the state-operated hatchery at Marion to maintain a supply in the holding ponds. The Big Tumbling fee-fishing area opened

Big Tumbling is about as ideal a stream for the purpose as is likely to be found in Virginia.

Commission photos by Kesteloo

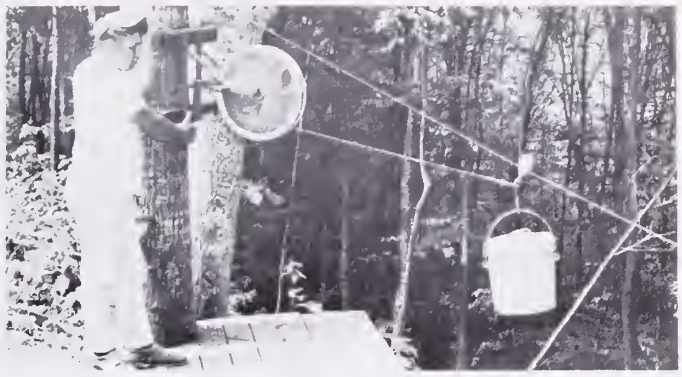
The only thing left to be done is to make this type program available to more anglers.

one month after the opening of trout season in 1964, but the season was extended to the first week of October that year. Since then, the normal operating season has been from the first Saturday in April through Labor Day. Since the opening in 1964, angling pressure on the stream has shown a gradual increase. In 1964, 17,387 fishermen used the area, and in 1965 the number jumped to 22,314 for the same length period. In 1966, 12,639 persons had fished the area as of June 17. Since the opening in 1964, the Commission has released over 165,000 rainbow trout in the fee-fishing section of Big Tumbling Creek, and those persons who have contributed to this program through the purchase of a daily fishing permit have paid approximately thirty-two cents per trout stocked.

During the last two weeks of April of this year, a fisherman survey was conducted to determine just where the anglers came from who visited the area and also to determine the type fishing license in use as well as the frequency of their visits. The results of the survey indicated that Smyth County residents were the most frequent users, and fishermen from Tazewell County ran a close second. Residents of

When hatchery trout are removed from holding ponds and given a chance to disperse in the stream, they become shy and wary in response to native instincts.

Washington County came in third, and Buchanan County came in fourth. With the area being closer to the town of Saltville, the residents of that town were the most frequent users, and the people of Richlands were recorded as being in second place. Anglers from the town of Tazewell came in third, and Cedar Bluff, another Tazewell County town, came in a close fourth, with the town of Marion fifth. Of the larger cities represented, Bristol produced more visitors, with Bluefield second. The state of West Virginia sent more nonresidents than any other, with Ohio in second place, while one individual came all the way from Florida. During the period of the survey, all fishermen were polled as to the number of trips they had made to the stream. With 987 persons being questioned, 31 percent were making their first venture, 49 percent had been there from one to five times before, 16 percent had fished there from six to ten times before and 4 percent of the anglers had come more than ten trips. When the fishermen were quizzed as to the type of fishing license they purchased, 83 percent indicated that they held a state license. This would be expected, since portions of the stream are in Russell, Smyth and Washington Coun-



Commission photos by Kesteloo

The terrain is so rugged that trout for stocking are lowered into the gorge by cable.

ties. Since May of this year, the Clerk of the Court of Washington County has made three-day fishing licenses available for purchase at the check station. This added convenience for the unprepared angler has proven to be more popular than was expected. However, this is the only trout stream in Virginia where the three-day fishing license is legal.

It would be presumptuous to declare that all anglers who come to Big Tumbling Creek are completely satisfied with their fishing experience. Regardless of the angler's fishing techniques or his abilities, not everyone leaves with his daily limit of five rainbow trout. Every fisherman shouldn't cast all the blame for not catching fish on his inabilities, or his tackle, or improper bait at any particular time. Although these trout are hatchery reared, when released to the stream and given the opportunity to disperse they immediately respond to their native instincts. It is well proven that on days when the fishing pressure is above normal, the catch per person declines even though there are far more than enough trout in the stream to fill every creel. The cause is simple. With so much human activity the fish become harassed.

The gnawing urge that possesses an angler to lure, hook, play and land an active trout can be fulfilled on Big Tumbling Creek. And according to the regulations on this stream, you may release uninjured trout to be available again. However, if you are not interested in the sport, you will find cheaper fish for eating at your local supermarket. Although the program is costly, and you are willing to help pay the bill, one simple fact has made the fee-fishing program a success. Fishermen know that trout are in the stream at all times through the Commission's daily stocking (except Sunday). Your response leads us to believe that fee-fishing for trout is here to stay.

Fishermen know that there are trout in the stream at all times throughout the season.

L. L. Rue III photo

SQUIRRELS IN THE CEDAR

By ILEEN BROWN
South Boston

SQUIRRELS have come to live in our back yard, and we are delighted. For we tempted, cajoled and bribed them to come. At first only occasionally would a squirrel visit, and this would be in the fall when the pecans began to ripen. Then we started bringing back walnuts and acorns from the country. Although my family laughingly remarked, "People will think we are a little nutty," they helped me gather the nuts. And a little friend pleased me by sending bags of hickory nuts. We piled all these by the maple tree, and almost immediately one squirrel claimed it as his private larder. He would make daily treks, pick out his favorite nut, and then scoot across the yard and up a fence post. There away from any harm he would proceed to eat. After he had eaten his fill he then went about the business of hiding some for the time when the supply would be gone. He put them in every nook and cranny of the yard. In the rose bed; by the magnolia; in the soft earth of the dahlia bed; and in the flower border.

Now with plenty of food available, the only thing our squirrel lacked was a hollow tree to nest in. Since our yard has only small trees, we decided to help out by putting up a den box. While a den box can be simply an oversize bird house, nail kegs and hollow logs also make ideal boxes. The entrance hole should be from 2½ to 3 inches and within an inch or two of the top. Also, good drainage should be provided.

During the Christmas holidays our son-in-law found a hollow log on the river bank that one time housed a family of woodpeckers and later a swarm of honey bees. There were two entrance holes that had been made by the woodpeckers. One was 20 to 24 inches from the bottom, and the other was within a few inches of the top. Instead of sawing the log in half, we decided to leave it as it was. After a top and bottom were nailed on, and a layer of sawdust added, the box was anchored on a limb, about twenty feet up in the cedar that was just a hop away from the spreading branches of the apple tree. We then nailed a shield of tin around the tree to discourage cats.

We anxiously waited to see if a squirrel would approve of our work. We didn't have long to wait. It was just a few days later that we saw a squirrel inspecting the box. He would go in one hole and out the other, and then he would climb to the top of the house and look around. A short time later we noticed a squirrel was staying more and more in the house. Yet, we still didn't know if there was a nest or if the squirrel was just happy to find a warm place to stay. It wasn't until Easter Monday that I saw a tiny head peeping from each of the entrance holes, and then we knew for sure, there were baby squirrels.

After this each free moment was spent watching for the babies to appear. They would peep cautiously out of the entrance holes and then, at the sight of me, would scuttle out of sight. Soon they were strong enough, and brave enough, to venture out of the house and onto a nearby limb. I counted them as they left the house; there were four. They romped among the cedar branches like playful kittens, grabbing hold of a bushy tail of a sister or brother. When they tired they were contented to snuggle on their house top, or in the crook of a comfortable limb.

Early one morning while I was walking about the yard, I heard a scratching against the tin shield that encircled the tree. I knew what had happened before I reached the tree. And sure enough, just as I thought, a squirrel had tried to hold on to the tin shield and had fallen the short distance to the ground. When I reached him he was clinging to the tree trunk, just a few inches from the ground. While I was wondering how I was going to get him back up the tree (I wasn't sure he wouldn't bite or scratch me if I tried to pick him up), the baby squirrel took a good look at me and decided he didn't like what he saw; he hurried over to the apple tree.

I went to the house for the hammer, I had decided the only thing to do was to pull the tin away from the tree, but just as I returned to the cedar, the squirrel solved his own problem. He climbed the apple tree and crawled out on the farthest limb, and then in one weak jump reached a branch of the cedar. Not stopping a second, he then leaped over to his house and dived in, leaving only a tip of his bushy gray tail showing.

The squirrels still come home to the cedar, but now during the day they roam more. We have found them to be interesting little animal friends, and come fall when the pecans again begin to ripen, we will be satisfied if they leave us enough for a pie.

Champion Archer

By BILL COCHRAN
Roanoke

WHEN most sportsmen look back over a lifetime of hunting in Virginia, or any other state, few can claim they came anywhere near killing as many as 25 deer.

But Jack Cantwell can. He bagged that elusive 25th deer last fall with a well placed spine shot.

The thing that makes this feat outstanding for Jack is the fact he is not yet 30 years old. But what makes it truly amazing is that Jack killed them all while hunting with bow and arrow, one of the most challenging and difficult ways there is to take deer.

Jack Cantwell stands tall among the nation's top bowhunters. He's also an outstanding competitive target archer, currently Virginia's freestyle champion. Regardless of whether he is stalking a deer or aiming at the black bullseye of a tournament target, he does an admirable job. He's a champ at both.

Jack has enough archery trophies in his Portsmouth home to crowd the furniture out of his den. Last September he won Virginia's freestyle (sight-shooting) archery title from Philip Tillison of Bristol during the state shoot in Richmond. Tillison had won the title from Cantwell the year before.

Cantwell will defend his title during the annual state tournament to be held in Roanoke on Labor Day Weekend this year. The husky 215 pound champion is expected to offer other top archers tough competition.

But at heart, Jack remains a bowhunter. "Actually, bowhunting is my first love," he says. "I enjoy competitive archery, but not nearly as much as I do the hunting end of our sport."

Last fall, during that wonderful time bowhunters go afield, when the October mornings break frosty then mellow into golden middays and when the foliage is a blaze of red, yellow and orange, Jack bagged his 24th and 25th deer.

The 24th one was a 100 pound doe killed at 30 yards. A slight drizzle had been falling all day making stalking conditions excellent. Jack was slowly moving into the wind, crawling under some blown-down trees when he spotted the doe. The deer was looking directly away from him. He dared not make any sudden moves or snap a twig or stump a rock, because two jumps would take the deer out of range.

After what seemed like an eternity, Jack managed to ease into a shooting position. He would have to shoot while kneeling, aiming through a small clearing in the branches of the blown-down trees. It was like shooting from inside a cave.

Jack carefully pulled his powerful 50-pound bow until the string touched his face. He took careful aim, then the string eased from his fingers and the arrow leaped forward.

The three-bladed spiral shaft struck the deer forward of the left hind leg and completely penetrated the length of her body, cutting the top of her heart and exiting high in the jugular vein to land in the brush ten yards away. The deer give a little side jump and fell. She was dead within 15 seconds.

Deer number 25 was a spike buck killed at a distance of ten yards. Jack was hunting from a tree stand when the buck approached. He killed it with a spine shot.

Jack is one of the few men in the country who has bagged a wild turkey with bow and arrow. Hunting in Sussex County in 1961, he sent an arrow into a gobbler that was sitting in a tree 70 feet up. The 18-pound bird flew a short distance then lost its grip on the sky, spinning downward, popping limbs and scratching bark, finally to fall dead in a creek.

Jack pulled the big bird out of the water, and wet and dripping, it looked more like a buzzard than a turkey. That same day his hunting partner Oddie Kello bagged a hen turkey with his bow.

Says Jack, "I've got good equipment and good places to use it, but more important, I've got good hunting companions. This makes a successful hunt whether you bag anything or not."

Jack's favorite deer hunting areas are Hog Island, Yorktown Naval Weapons Station and terrain near Newport News.

Jack likes to scout his hunting area before the season opens. He carefully looks for well used deer browsing areas and bedding areas, then attempts to find a suitable tree stand somewhere in between.

Says Jack, "If all goes well, this usually pays off with good close shots. Most of my kills were made within 20 yards. I have killed deer at as much as 60 yards, but this I firmly believe is far more luck than skill and I don't advocate the long shots. It results in too many losses which hurt bowhunting."

And to Jack Cantwell, a big part of archery is sportsmanship.

Jack Cantwell and his second eight-point buck bagged with bow and arrow.

Nineteenth in the series of articles on some of the favorite angling hot spots in Virginia.

Occoquan Reservoir

By "DUCK" DUCKSON
Outdoor Editor, Northern Virginia Sun

THERE are more than 360 public boat landings and marinas listed in a booklet prepared by the Virginia Commission of Game and Inland Fisheries, many affording excellent access roads and marine facilities. Those providing adequate facilities and good fishing potential are visited most, and the fishing pressure at many locations is quite heavy.

Not listed in the booklet, and usually known only to those in the immediate vicinity, are numerous private marinas, which also afford marine facilities and, in many instances, better fishing potential due to less fishing pressure.

One such facility, which encompasses parts of four counties in the heavily populated Northern Virginia area, is Occoquan Reservoir. It drains 581 square miles in Prince William, Fauquier, Loudoun and Fairfax Counties.

More than 1,800 acres of water are provided by this impoundment, which has a perimeter of 100 miles and is owned by the Alexandria Water Company, a subsidiary of the Amercan Water Works.

Water is fed into the reservoir by Occoquan Run from its headwaters below the dam at Lake Jackson, and from Bull Run, which headwaters below Clifton. These two streams junction some 10 miles above Occoquan Marina, and form the dividing line between Prince William and Fairfax Counties.

Through an agreement with the Water Company, Francis "Pete" Petrola, whose property in Fairfax County fronts Occoquan Reservoir for three-quarters of a mile, opened a private landing in 1958. With a natural landing beach, supplemented with gravel hauled in by Petrola, a boat ramp was made available and several boats were acquired for rental.

Although his intentions were never to operate such a facility, Petrola related his decision was made when the 120-foot Occoquan Reservoir Dam was erected in 1958, and rumors were that recreational activity would not be permitted.

Washington *Evening Star* photo by W. Johnson

Pete Petrola operates the Occoquan Marina within the confines of Occoquan Reservoir. Motor horsepower is restricted to 10 hp or less.

Petrola, who retired from Government Service in 1960, has resided on his property since 1907, and since his early years has continually strived to improve the fishing potential in Occoquan Creek.

From 1919 through 1940, Pete would meet the midnight train and cart buckets of smallmouth bass to the creek. Now, with the aid of the Virginia Commission of Game and Inland Fisheries, a variety of fish have been added to the impoundment, from 99 foot Ryan's Dam east to the Occoquan Reservoir Dam. Depths vary from 35 feet at the upper dam

Young angler displays fine catch made by himself and two others on a fishing trip out of Petrola's marina.

Washington *Evening Star* photo by W. Johnson

to 60 feet at the spillway above the town of Occoquan, a distance of some 9 miles.

In April 1963, the Commission of Game and Inland Fisheries stocked 500,000 walleye fry in the reservoir.

During this same year, Petrola hauled a water-filled boat containing rockfish from 2 to 14 pounds from the Chesapeake Bay, but to this day has yet to see a single specimen of the stocking, dead or alive.

Last year the Commission continued its stocking program in the reservoir, adding 165 spawning white bass which averaged 16 inches, and became the first of three such stockings which took.

Also added in 1965 were 400 northern pike, 14,000 channel catfish, and two dozen young flathead catfish, plus two 19 pound spawners of the latter variety, which are solely live bait feeders.

Crappie and bluegill afford additional sporting pleasure for the fly rod enthusiasts as well as spin and bait casters.

Anglers are forewarned that ultra-light tackle is generally not recommended, as many tackle busters have been taken from this excellent facility.

Deep trolling lures have produced many bass over five pounds, with the largest recorded at Petrola's including a 6 pound, 12 ounce smallmouth and a 9 pound, 4 ounce largemouth bass. Although not recorded at the marina, Pete recalled an angler fishing from his dock weighed in an 11 pound, 4 ounce largemouth at a country store several years back.

Petrola currently has 92 flat-bottomed aluminum boats available for rent, some with 10-horsepower motors, the maximum hp allowed. A nominal fee is charged for ramp facilities, and some terminal tackle, along with favored baits, worms and live minnows, is kept for anglers.

Other than a large parking area, Petrola has also designated a camping and picnic area, open to the public at a slight fee, where families and outdoor lovers can revel at the many wonders of nature which abound in the vicinity.

Lining the picturesque, rolling hillside are stalwart oaks, pines, cedars, hemlocks, as well as mountain laurel and various colorful foliage rarely seen in the overdeveloped surroundings of many man-made lakes and ponds in nearby fishing areas.

A sanctuary for many of mother nature's creatures, it is not uncommon to see colonies of beavers at work or have wild geese or ducks fly overhead.

Open from daylight to dark during the fishing season, this private dock may be reached either off U. S. 29-211 at Fairfax, or by Shirley Highway at the Lorton cutoff. From Fairfax, turn south on State route 123 approximately 10 miles to route 647 for one mile to the marina entrance. From Shirley Highway, take State route 642 north slightly more than a mile to route 611 which junctions with route 123 in another short mile. Follow one more mile on 123 to route 647 and a mile to the entrance sign.

Boats with motors are available for rent, and private boats may be launched for a small fee.

Washington *Evening Star* photo by W. Johnson

CHAIRMAN NETTLES

COMMISSION MEMBERS' TERMS EXPIRE

VICE-CHAIRMAN WALKE

FORMER Chairman E. C. Nettles and Vice-Chairman I. T. Walke, Jr., ended their long and fruitful terms of service as members of the Commission of Game and Inland Fisheries on June 30. Both had served consecutive terms on the Commission, and neither was eligible for reappointment.

Doctor Nettles, a practicing dentist in Wakefield since 1927, was first appointed to the Commission by Governor Darden in 1942. He had served 14 years before the effective date of an amendment to the law under which a Commission member became ineligible to succeed himself more than once following a full six-year term.

Mr. Walke, well-known Norfolk sportsman and businessman, was first appointed to the Commission by Governor Stanley in 1954.

At a dinner following their final Commission meeting on June 24 both retiring members received a certificate of appreciation from Governor Mills E. Godwin, Jr., in recognition of their years of service and dedicated efforts "*to preserve, protect and wisely manage the State's outdoor resources.*" The awards were presented by Lieutenant Governor Fred G. Pollard.

EDUCATION OFFICER RESIGNS

Former Education Officer Dorothy Allen and Field Coordinator "Stu" Newman discuss a Game Commission educational exhibit.

EDUCATION Officer Dorothy E. Allen has resigned her position with the Commission's Education Division to accept an appointment with the United States Forest Service.

Mrs. Allen joined the Commission of Game and Inland Fisheries staff in 1961, and since then has been actively promoting conservation education programs aimed largely at Virginia's youth. She has prepared a number of new Commission publications designed to aid school teachers in developing conservation-oriented teaching units, and has lectured at teachers' summer short courses sponsored by the Virginia Resource-Use Education Council. She has served as coordinator of the annual student conservation essay contest sponsored by the Commission of Game and Inland Fisheries and the Izaak Walton League with approval of the State Board of Education. An interesting and vivacious lecturer, Mrs. Allen was in much demand for speaking engagements before meetings of a wide variety of organizations throughout Virginia these past five years. Among her many other duties was that of editing *Virginia Wildlife's* YOUTH AFIELD department.

WARDEN SUPERVISOR RETIRES

I. H. VASSAR, Game Warden Supervisor of the 19-county Patrick Henry District and for years one of the Commission's most loyal and respected senior employees, has retired to his 246-acre farm near Charlotte Court House.

"Ike" came to the Commission as a game warden in 1938, and was appointed District Supervisor in 1946. During his 28 years of service he participated in and helped to achieve a complete revolution in the organization, equipping and training of the Commission's Law Enforcement Division. He was honored by his wardens, his fellow supervisors, and other Commission employees at a party at the Blackstone Grange on June 17. He and Mrs. Vassar were presented a silver service by the wardens of his district. His retirement was effective July 1.

"IKE" VASSAR

VIRGINIA WILDLIFE ☆ ☆ ☆ ☆

CONSERVATIONGRAM

Commission Activities and Late Wildlife News . . . At A Glance

POWHATAN AREA EXPANDED. The recent purchase of 640 acres in three tracts adjoining the Game Commission's Powhatan Wildlife Management Area just west of Richmond brings the total acreage of the facility to 2,665 acres. The new lands include about 160 acres of agricultural land which will be farmed on a sharecrop basis and used to increase dove hunting opportunities on this area.

A potential waterfowl marsh on the new property may be developed on an experimental basis. The remainder of the new property, located on the northern edge of the original management area, is mainly wooded and should offer additional deer, squirrel and turkey hunting territory to central Virginia nimrods.

MUSKIES GROWING AT KING AND QUEEN STATION. Approximately 10,000 muskellunge fry hatched from a pint of eggs received from the Pennsylvania Fish Commission have survived and appear to be growing well at the Game Commission's King and Queen Fish Cultural Station. The little muskies are currently about 6 inches long. No definite stocking plans have been announced, but a large share of new muskie stock will probably go into Smith Mountain Reservoir where previous plants have already paid off with legal size muskies.

COMMISSION ADDS TO ELM HILL AREA. The recent addition of 17 acres to the Commission of Game and Inland Fisheries Elm Hill Wildlife Management Area adjacent to Kerr Dam brings the total acreage of this facility to 984 acres. The new acreage was an old railroad right-of-way secured from Vulcan Materials Company following rail salvage operations.

The Elm Hill area is primarily a waterfowl refuge, but it also provided excellent managed dove shooting last fall. It is destined for extensive field trial use and recently one of its waterfowl ponds served as a nursery for northern pike fry which were released into Gaston Reservoir when they reached satisfactory size.

NEW WILDLIFE AREA IN ORANGE. Through a cooperative agreement with the landowner, Guy H. Lewis, Jr., the Commission of Game and Inland Fisheries has assumed management responsibilities and gained control of certain outdoor recreational activities on the 2700-acre Hawfield estate in Orange county. Under the terms of the agreement the Commission will be able to provide managed dove hunting, fishing, courses for organized field trials and other outdoor recreational activities on the tract.

Three warm-water fishing ponds on the property totaling 20 acres were opened to public fishing June 15. It is anticipated that 180 acres of corn already planted will be harvested in time to permit Wednesday and Saturday afternoon dove shooting during the dove season beginning in September. Field trial courses are expected to be ready for organized field trial activity during the field trial season commencing September 1 and extending through April 16. Groups desiring to hold field trials must apply to the Commission in advance for a free permit.

The area, located approximately one mile north of Unionville in Orange county, is primarily cleared agricultural land. As its share of the management bargain the Commission will develop food and cover plantings for wildlife, construct and maintain access and parking facilities and field trial courses. The Commission will also fertilize and manage the fishing lakes on the property. The fishing regulations will be similar to those in effect on state lakes which, among other things, impose a 12-inch minimum size limit on bass and prohibit the use of gasoline motors. The Commission plans to post the property boundary with wildlife management area signs and to erect other informational and directional signs where needed.

TROUBLESH

By WAYNE HEYMAN
Marquette, Michigan

Does your outboard engine act like it's ready to fall apart? The chances are it isn't, and with the right advice you probably can have it firing again at full power.

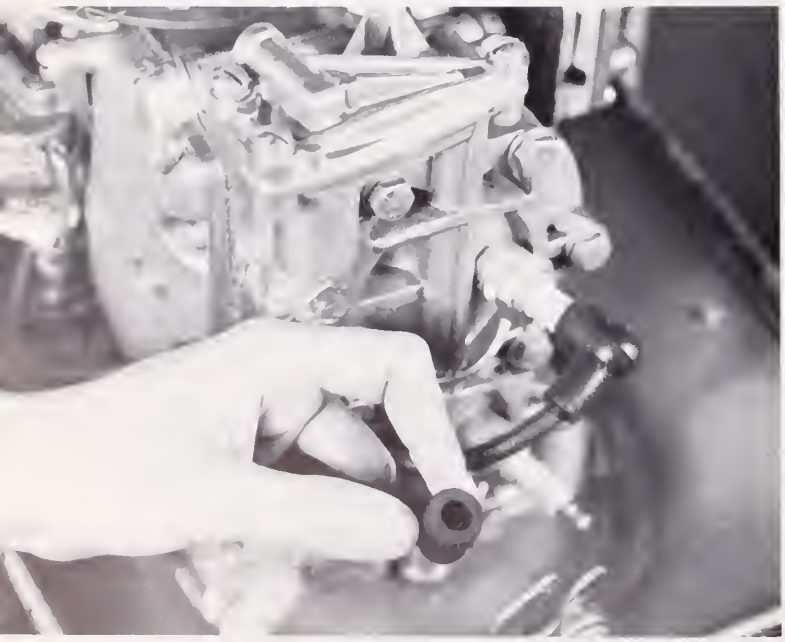
As complicated as your outboard engine might appear, it seldom requires the expert hand of a skilled mechanic to keep it humming all season long. Perhaps the trouble might be a loose connection or even a clogged fuel line. These are trivial matters, to be sure, but to an outboard owner who can't trace the difficulty, the problem is liable to be stretched out of all proportions.

This isn't meant to imply *all* engine trouble is simple; even the pros often have a rough job finding the source. But if you've been taking reasonable care of your outboard engine, then there's a good chance you can put it back in shape in a few hours' time.

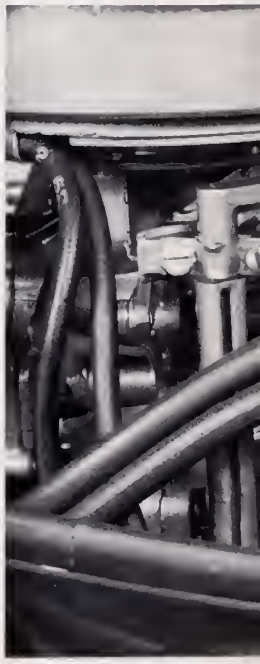
Around the early part of the boating season is when most outboard engines start acting up. If you've been running your craft under normal conditions, carbon deposits have likely built up around spark plugs, piston crowns and on top of the cylinder head. If not removed, these deposits will reduce over-all engine performance and increase compression ratio, which, in turn, causes a greater degree of heat in the combustion chamber and starts the engine on a misfiring cycle. In extreme cases, the plugs often build up enough heat to cause electrodes to glow, and could even lead to burned or seized pistons.

Carbon buildup is a normal engine condition which occurs frequently. It can be quickly remedied by any boat owner in less than an hour's time.

Start out by removing the power head covering (in most models, an upward jerk with a screw driver will do the trick), exposing plugs, wiring, throttle linkages and flywheel. For a thorough cleaning, it's best to remove the spark plugs, soaking them in kerosene long enough to loosen most of the carbon deposits. After they've soaked sufficiently, use an old toothbrush and scrub off any remaining carbon particles from the plug's electrode with pure benzol or gasoline. Finish up by removing any carbon or grime found around the cylinder head. A few drops of machine oil, lightly



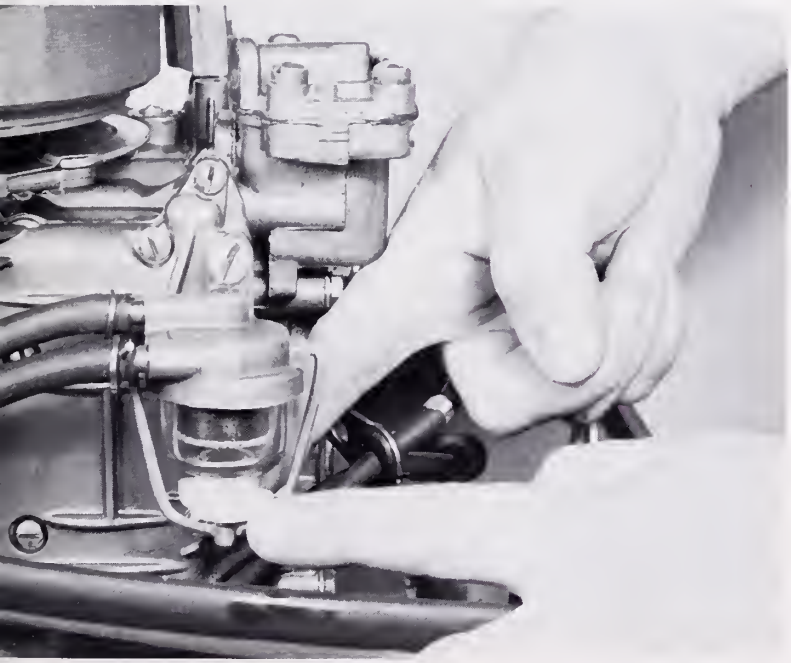
Check the rubber-insulated caps at the end of spark plug wires. If they appear frayed or are starting to deteriorate, replace with a new set.



When replacing the glass bowl, avoid tightening the bottom "wing nut" with unnecessary force or the glass bowl may crack or chip and allow fuel leakage.

OOTING THE OUTBOARD

Before removing and cleaning the glass bowl sediment trap in the fuel system, close fuel line shutoff valve. The bowl should be cleaned frequently and fuel line checked for leaks.



coating the exposed metal parts, will protect the newly cleaned area against rust.

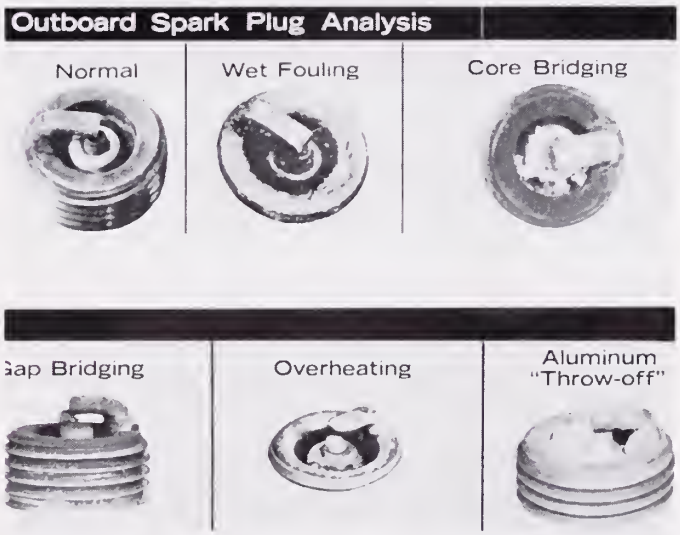
Those inexpensive and seemingly insignificant spark plugs are frequently responsible for most of the woes that cause a malfunctioning engine. Plugs with cracked porcelain or burned electrodes should be discarded when found. Even plugs *suspected* bad should be immediately replaced. It never pays to underestimate your engine plugs since they're one of the most important factors necessary in achieving top operating performance.

Although sensitive to the point of aggravation, spark plugs have the uncanny ability to diagnose a faulty engine condition. A fouled plug, for instance, with definite traces of water will indicate a blown head gasket or cracked cylinder wall. Both symptoms require the service of a professional mechanic, but recognizing the condition often saves the owner hours trying to track down the trouble.

Be wary of a weak or feeble spark. Although this often is the fault of a bad plug, it might indicate ignition failure caused by either high-tension-wire breakdown or magneto trouble. If after changing plugs the weak spark still persists, better haul the engine down to the nearest marine service shop for repairs.

Every outboard owner should make a habit of checking the spark plug gap setting. This is accomplished easily with the small feeler gauge supplied when the engine was first purchased. If lost, a feeler gauge can be obtained at any service shop for less than a dollar.

Since spark-plug gappings vary from model to model, check your service manual for the specific setting for your particular engine. If the manual is missing, phone the nearest marine shop for the necessary information. Any outboard



Normal plugs have a warm, chocolate-brown coloration on the porcelain with a minimum ash residue around the electrodes.
Wet fouling is caused by prolonged trolling, too rich low-speed carburetor adjustment, bad fuel and oil mixture.
Core bridging results from engine deposits accumulated during long periods of slow running and loosened from piston tops at high speed.
Gap bridging also results from flying deposits within combustion chamber.
Overheating gives insulators dead-white or gray appearance and causes excessive gap wear.
Aluminum throw-off happens when pre-ignition occurs in engines with aluminum alloy pistons. Plugs become useless.

owner who expects top boating performance should make sure that proper gapping between electrodes is correctly kept. Otherwise, efficient engine operation will be seriously impaired and could result in costly repair bills. Even new spark plugs should be given a gap check before being placed in the engine. The range is usually between .025″ and .030″.

The "heat range" of the spark plugs that originally were in the engine when first purchased probably no longer fits your present operating condition. Broken down to its simplest terms, heat range is the method engineers use to classify spark plugs according to the best temperatures they are designed to operate at with maximum efficiency. Broadly speaking, these temperatures range from *hot* to *cold*.

The type plug best suited for your particular outboard engine depends on the way it's normally operated in an average run. If most runs are made at slow cruising speeds, the outboard engine will perform best with a *hot* plug. Hot plugs are designed for operation at low speeds where temperatures are low and in engines with low compression ratios.

On the other hand, if most runs are made at high, intermittent speeds with occasional long periods of idling, then a *cold* plug is recommended. Cold plugs are specifically designed for use in engines of high compression ratio and for high speed operations at high temperatures.

The lower gear housing should be drained and refilled at the intervals prescribed in your service manual. Check drained lubricant for metal chips or water. Metal in the drainage is a sign of serious gear wear and damage. Water indicates a cracked lower unit. In either case, haul the motor down to the nearest service shop for major repairs.

Using a *cold* plug in a low speed, low compression engine (such as trolling), will result in constant fouling. While a *hot* plug in a high compression engine (water skiing, racing, etc.) will cause pre-ignition, followed by a marked drop-off in rpm's.

Many veteran outboard owners switch plugs in the course of a day's run in order to protect their engine and gain maximum performance. For example, when speeding to favorite fishing grounds, *cold* plugs are used; then the angler simply switches over to *hot* plugs for trolling purposes. This practice saves wear and tear on the engine, prolongs battery life and generally maintains a constant flow of engine horsepower.

Here's how to check if your spark plugs are suited for your particular engine: if the porcelain core appears burned, blistered or heavily coated with a white ash residue, the plugs are running too hot. Better switch to a lower heat range. If the plugs have a black, sooty or moist oily appearance, switch to a higher heat range.

Tank sediment causes clogged fuel lines. Empty tank and inspect for gum deposits (but don't use a lighted match for illumination). Acetone or lacquer thinner usually will remove such sludge.

Properly functioning spark plugs burn with a warm, chocolate brown coloration around the porcelain. Also, the electrodes will be *lightly* coated with a gray ashy residue.

Although spark plugs can be responsible for many ills that plague an outboard engine, there are other factors that should be given equal consideration when troubleshooting the family rig. A clogged fuel line, for instance, can be darn mischievous if not quickly corrected, and a loose flywheel or off-balanced propeller can make the engine behave like it's ready to fly apart.

Before making any dockside adjustments, always consult your service manual. Keep in mind that *all* major overhauls should be left to the pros. Most home workshops simply aren't equipped to handle the more complicated jobs such as engine timing, repairing stripped gears, or making sensitive carburetor needle adjustments. But if you carry out the steps pictured on these pages, you shouldn't have any trouble handling those annoying engine problems *before* they occur.

A badly nicked propellor can seriously affect engine performance. When the prop starts looking like this one, it should be repaired or replaced.

The Stump and My Neighbors' Dirty Birds

By C. P. HUFF, JR.
Pulaski

BEFORE a feud is underway on Allison Lane, may I explain *why* my neighbors' birds were so dirty?

To begin with, the acre surrounding my home is planted in various fruit trees and winter feeding bushes used by the birds. Good sources of food are the garden and raspberry patch, along with the grapes. All this plus a few bird houses, and I still had only a minimum of birds! Life was pretty well balanced among the feathered friends and I could very well look about the lot and identify the home folks. The wrens have three houses, but, to my surprise, they use the same house year after year. They are chatty, and most welcome. The sparrow and starling seem to drift in and out, especially when the mockingbird and blue jay start their feuding about the yard. The blue jay must be of the neighboring group as we see him so seldom; but as to the mockingbird, he is a member of the household and each spring the old stickly bush at the front of the house is his home. We are proud to have him about; with his mocking of other birds we are aware of their being even in their absence.

As I have said, we were going along with what some would call just a family flock and an occasional visitor. Life was pretty well balanced, the robin keeping the night crawlers in balance not to mention hulling out the apples in the tops of trees. Occasionally we feed our birds and try to look after them during the heavy snows. Water didn't seem to be a major item as just over a mile away was a small creek, and a few years back, while raising chickens, I kept a small pond in the chicken lot that was used by the birds at the time. Due to the location of the chicken house and lot I couldn't see the birds using the water pond unless I came upon them by surprise, so it didn't dawn upon me that this was their source of water.

During a drought this past summer I noticed that the birds frequented a small flower bed near our back driveway. In that bed was the end of a water line that I had installed for a fish pond, and ever since had been using the water for keeping the flowers moist. This was the first indication that our birds were suffering from the lack of water.

Near the flower bed was an old locust stump that had rotted slightly in the middle. The water line being nearby, and the stump an unsightly mess, prompted my drilling out the center of the stump and installing the water line up through the roots and into the cavity. This had already solved one big problem, that being to stop cars from beating the pipe into the ground as they turned on the back driveway. But never stop with a pipe in a stump without filling in with concrete and forming a bowl on top! In this manner one can not only water the birds but use the hose connection for various other watering projects.

I can now say truthfully that the feathered family has increased considerably and, along with the increase, my neighbors have sent *their* birds in for a bath. Where we normally had ten or twelve birds about the yard we now have fifty or more, and ten or more trying to bathe at one time. I have about decided to rebuild the bird bath to accommodate more dirty birds, or resign myself to filling the existing bowl many times during a hot summer afternoon. I realize feeding will bring in many birds, but try watering them during the hot summer days and you will be surprised at the number of dirty birds your neighbors have.

Dog for Sale?

V. C. W. R. U. photo by Mosby

By ROBERT CARDEN
Westmoreland

THIS narrative will not interest those men who are the undisputed "masters" in their homes—that minority group of he-men who are of the Rhett Butler stripe—who when they want to keep a bird dog in their three-room apartment, simply bring it in and give the little woman detailed instructions on feeding, watering, de-fleaing and what to do in case of an emergency situation on the new rug.

However, there may be a point or two well worth the reading time of the majority of men whose authority in the home is a border-line case, and who during honeymoon days started hanging up their own pajamas, making their own beds, and who later reflected that it was pretty swell the way their mother used to keep their Dad's favorite hunting dog around the house.

My dad confessed he had a few tense moments in introducing his pointer "Hector" into a 19-year sojourn with my mother in charge of feeding, watering, etc.; but with ingenuity, caught her in a fervor of enthusiasm over a contest then raging, over who could raise the most money for the Ladies Auxiliary, and bribed her at so much per diem to care for a sick puppy of a friend. Fortunately he placed a time limit of two weeks, and specified that she personally had to feed the pup. When the two weeks were up mother had become so entranced with young Hector's charms that his permanency was assured. Dad even saved future arguments by maneuvering her into asking that the pup be allowed to remain. It isn't always that easy.

I have a friend who is an ardent hunter and dog enthusiast, who is now in his 15th consecutive month of "build up" with his wife about keeping a bird dog. His strategy has been indirect, showing films of beautiful setters and pointers frozen stiff on quail—discoursing at length on the value of the companionship this offered his son, age 13. Things were progressing nicely until we reached his house late after a great day in the field together. It was decided that my dog Pal could sleep in the basement, and I occupied the guest room on the third floor.

Next morning, I came down to breakfast in excellent spirits, but soon noticed my friend looking slightly uneasy, and his wife looked tired and worn. Soon a loud wail, like a coyote calling his mate emanated from underneath us. I jumped up to quiet Pal quickly, but was assured that a few more howls couldn't hurt after a whole night of them. Last time I saw my friend he was using the "birthday approach" —with his fingers crossed. When questioned as to his birthday wishes he was adamantly wanting bird dog or nothing; I fear the latter.

You cannot expect to get the best out of any dog in hunting season if he is left all year at a kennel. Dogs invariably respond eagerly to those they know best, and a man who has a good dog well trained should never loan it. A bird dog is one of the most gentlemanly of all canines, and are dandy companions for children.

My first bird dog came to live with us when I showed my wife how "monotonous" it was for him to be chained day after day to his dog house at the kennels.

All went well and he became very much at home until . . .

My wife had gone to New York and had made a special custom hat which was expensive and beautiful. She left the hat on the table one night, and the next morning Pal looked a bit sheepish when we saw him. Fragments of the beloved hat were all over the living room. I tried to explain that the hat had some feathers in it, midst a torrent of tears by my pretty wife.

The years have since rolled by all too swiftly, and we have always had good bird dogs living with us. Good hunting and living and a happy home . . . . Last night, years later, I saw my still pretty wife carefully putting my current bird dog, named Doctor, to bed in our best living room chair, because, after all, it was a cold night . . . .

Plan Your Outings

By HENRY H. GRAHAM
Twin Falls, Idaho

THE pleasure and success of a hunting or fishing trip, or an outing of any kind, is greatly increased if careful planning is done as long as possible in advance. It is advisable to think of every necessary item and make a list of all that will be needed.

In my younger and more careless days I lacked the wisdom of keeping things together before setting out. They were scattered all over the house, with the result that almost invariably something vital was overlooked and left at home. The danger of omitting something one will want, perhaps badly, is particularly great when there are several members of the party who do not all live under the same roof. Omission of certain important requirements is especially vexing when one goes into isolated country far from a store or other point of supply.

For a good hunting, fishing or camping trip, plan ahead, assemble gear ahead of time, and use a checkoff list as you load.

For many years now I have made a practice of getting my stuff ready several hours ahead of the actual time of departure and keeping it all in one convenient place. Then it is a simple matter to load it in the car. As I set aside something and put it where it belongs I check it off the list.

Some time ago two friends and I took a weekend camping trip into the back country.

"We'll need several flashlights," one of these men declared. "I have three new ones with fresh batteries so you fellows won't need to take any."

Our very first night in camp someone asked for a flashlight. We had none.

"I laid them out to bring, then forgot them," the guilty party confessed.

On another occasion we arrived at a distant lake without my duck decoys. This was my fault. We would have had much better shooting had we taken them along. As it was, the four of us bagged only five birds and had few shots. The distance was too great to return home for the decoys.

Two of us were trolling for trout on a big lake when lunch time arrived. The other fellow had forgotten his lunch, and the omission was not discovered until we were fishing five miles from the resort cafe. I had brought only enough food for one person. Although it was divided evenly we were both hungry when the meal was over.

I have only one real warm hunting coat, which was at the cleaners when a friend and I decided to go goose hunting one bitterly cold day.

"I have an extra one," the friend informed me. "I'll bring it along. We're about the same size so it should fit you."

Never doubting that he had done so, I looked forward to a comfortable shoot despite the biting wind and low temperature. You guessed it. He did not take the coat and I have never spent a more miserable day in the open, shivering all the while in my inadequate clothing.

Sometimes shells, fishing tackle, vacuum bottles containing hot drinks, matches and other things are forgotten. Occasionally even emergency medicines are left behind by people who never know when they will be needed. Many heart cases are supposed to have such pills with them at all times in event they are required. But I have been out with such people who forgot about them. Twice we have driven back more than twenty miles to get them.

This can be a matter of life and death. Such homeward trips cut down greatly on one's shooting and fishing time. Sometimes on a duck hunt the flight is over, at least until late afternoon, after an hour or two in the morning. Often the best fishing is early in the day, too. Delays cause the nimrod and angler to miss the choicest period.

Upon several occasions I have gone a considerable distance enroute to a fishing stream, grouse cover, or duck blind only to learn when part way that someone had forgotten his license.

Some years ago another man and I went quail hunting.

"I have ten shells," he stated as we set forth. "That ought to be enough. On my last trip I fired only five times."

As it happened, the shooting was excellent. My friend missed quite a lot of birds, and within half an hour he was completely out of ammunition. Our guns were of different gauges, so I couldn't help him out. And it was forty miles to the nearest source of supply.

The same thing has happened on people's fishing excursions. Even choice lures that nearly always produce results are sometimes left on a closet shelf or elsewhere. They do no one any good there.

In my youthful days I never bothered to buy a tackle box. I used to leave my stuff here and there, and I never knew where everything was. As a result I was forever buying lures, lines, leaders, hooks and all sorts of other equipment when I really had plenty of it if it could just be located. A favorite reel was in one place, a rod in another. Finally I bought a good box, and afterward kept nearly everything pertaining to fishing in it if it wasn't too big. It has paid for itself many times over by preventing unnecessary purchases. I am a great believer in tackle boxes.

Many hunters have several guns, all in nice cases. They should make sure about the gun they take on a particular trip if they have several gauges or calibers; otherwise, the ammunition they have with them afield may not fit the weapon they happen to have along that day.

Careful planning in any field of human endeavor is very important. For the hunter, fisherman, and camper it can mean the difference between a pleasant, rewarding trip and cruel disappointment. Many people have little time or opportunity for excursions afield, much as they enjoy them, and they should make the most of each jaunt. It pays to check everything you will need beforehand, and make sure you have each important item with you when you start out.

WATER RACE

The coon dog water race is gaining popularity fast, especially among coon hunters who enjoy the spice of a little competition and who like to work their dogs during the off season. This sport is not to be confused with the cruel and outlawed "coon on a log" fights. In the water race the coon remains safely out of reach of the dogs as he is towed by cable in his floating cage across the water and "treed" on the far shore. The Labor Day water race sponsored by the Montgomery County Coon Hunters Association has become an annual event.

Sherman Nelson photos

Ronnie and Leslie Judd display trophies won at last year's Labor Day water race at Christiansburg. The Judds' redbone won first place "tree" dog, while their bluetick was second place "line" dog.

T. R. Boyd and Midnight Joe, the black and tan who was first place "line" dog and second place "tree" dog last Labor Day. The Labor Day event, sponsored by Montgomery County cooners, is open to all comers.

with nothing but starlings and pigeons had better look to its planning and landscaping.

To achieve a city landscape favorable to an abundance of birds and the smaller wild animals will require some effort on the part of our wildlife experts. It is time that the state fish and game departments spent more time in the cities, that they become true wildlife departments interested in public outdoor recreation in a total sense. The population dynamics of city squirrels is as important a field for study as those of mule deer in Nevada.

Outside the city proper is that mixture of suburban and rural land that forms the metropolitan region. Here the role of wildlife can be different. Maintenance of a variety of wild species for viewing and study is still important, but the

The city with the greatest variety and abundance of wildlife within its boundaries may well be the city with the highest quality urban environment.

greater size and uniformity of natural environments increases the numbers of certain kinds of wildlife, and makes room for a variety of larger, game species. Metropolitan waterfronts, whether on river, lake or bay, become particularly important wildlife habitats, of extreme value. Here the city dweller can see, close to home, the various aquatic forms of wildlife. Marshes and mud flats within the metropolitan region can shelter great numbers of shore birds, herons, and rails, along with the larger waterfowl, and are among our most valuable wildlife areas. Most such areas are badly in need of cleaning up and protection if they are to serve an outdoor recreation purpose.

The presence of ducks in a marsh, quail in the fields, and deer in the woodlands not only adds to wildlife variety, but opens the possibility for other forms of wildlife-based recreation such as hunting. In the metropolitan region, hunting presents a problem because of the high density of humans. A load of birdshot intended for quail may lodge in some innocent hiker; a missed shot at a deer could penetrate all the walls of somebody's split level trap. However, within these areas there are often serious wildlife problems.

In the areas surrounding some of our large cities the deer population is unusually dense and does no small amount of damage to city gardens and parks. Hunting with deer rifles

Metropolitan waterfronts, properly maintained, can provide the city dweller with a variety of shore birds, herons and waterfowl close to home.

is unthinkable; however, the possibility for hunting with bows and arrows has been considered. Such hunting, if carefully controlled by a responsible group, could add to the recreational value of the land. It could fit in with the early morning and late evening hours available for most city-based recreation, and would at the same time help to reduce a wildlife damage problem.

Aside from hunting, metropolitan wildlife could be used for another worthwhile purpose, in teaching the ways in which wildlife can be studied to the youth of the city. Boy Scouts, Girl Scouts and other organized youth groups could learn how to carry out a game census, how to tell the sex and age groupings of wild animals, how to gather life history information. This knowledge could add greatly to their appreciation both of wild nature and of natural resource problems. (Continued on next page)

The presence of game birds opens the possibility for other wildlife-based recreation as well as hunting.

L. L. Rue III photos

Beyond the metropolitan area lies land that is available for weekend recreational use by urban populations. Here are farms and woodlands, marshes and streamsides, pastures and rough ground—the haunts of small game, waterfowl, deer, predatory mammals and a wide array of smaller animals. This area has an enormous recreational potential that could be used to public advantage. Because this land is easily available to the weekend hunter, it is the home of the private duck club, the game bird farm, the hunting preserve, where the economic value of wildlife actually exceeds that of agricultural crops. In most areas, however, the land in this region is privately owned and used for purposes other than

Equal attention is demanded for both game and non-game species.

wildlife production. It can be opened to public recreation, usually, only by some financial agreement between sportsmen's groups, the state game department, or other outdoor recreational organization, and the landowner. Because in these farming regions, soils are usually rich and vegetation therefore nutritious, the land can support a much higher volume of wildlife than can other, more wild, regions of the country. With high productivity of game a high volume of recreation based on hunting can be absorbed, where a proper incentive can be offered to the landowner. As is true in the city, the presence of wildlife on these lands adds enormously to their value when used for forms of outdoor recreation other than hunting. Equal attention is therefore demanded for both game and non-game forms of wild animal life.

Beyond the rural agricultural region lies the wild land, country that is available to the city dweller only on holidays and vacations, or less frequently on weekends. Much of this land is controlled by federal or state agencies, or is owned by timber companies. Here lies the greatest opportunity for the highest quality of recreation, provided by clear streams, remote marshes, distant lakes, wild forests which can attract the wilderness hunter, hiker, or camera expert. Since hunting seasons come after the summer tourists have departed, hunting extends the period of recreational use of these wild lands.

In these more remote lands, however, there is still to be found a wide range of recreational quality. Most often this is related to the presence or absence of roads. Close to the roads, recreational quality is diluted by crowding. The viewing of a distant mountain peak may not be diminished in value by the presence of numbers, but most experiences with wild nature suffer or are lost where numbers of people congregate. The range from low to high quality recreation extends along with the distance from the highway, where roads are scarce. The best quality is saved for the few with the knowledge to appreciate it and the stamina to attain it. In this remote wild country is the possibility for not just ordinary hunting, but for high adventure added to the lure of some trophy animal.

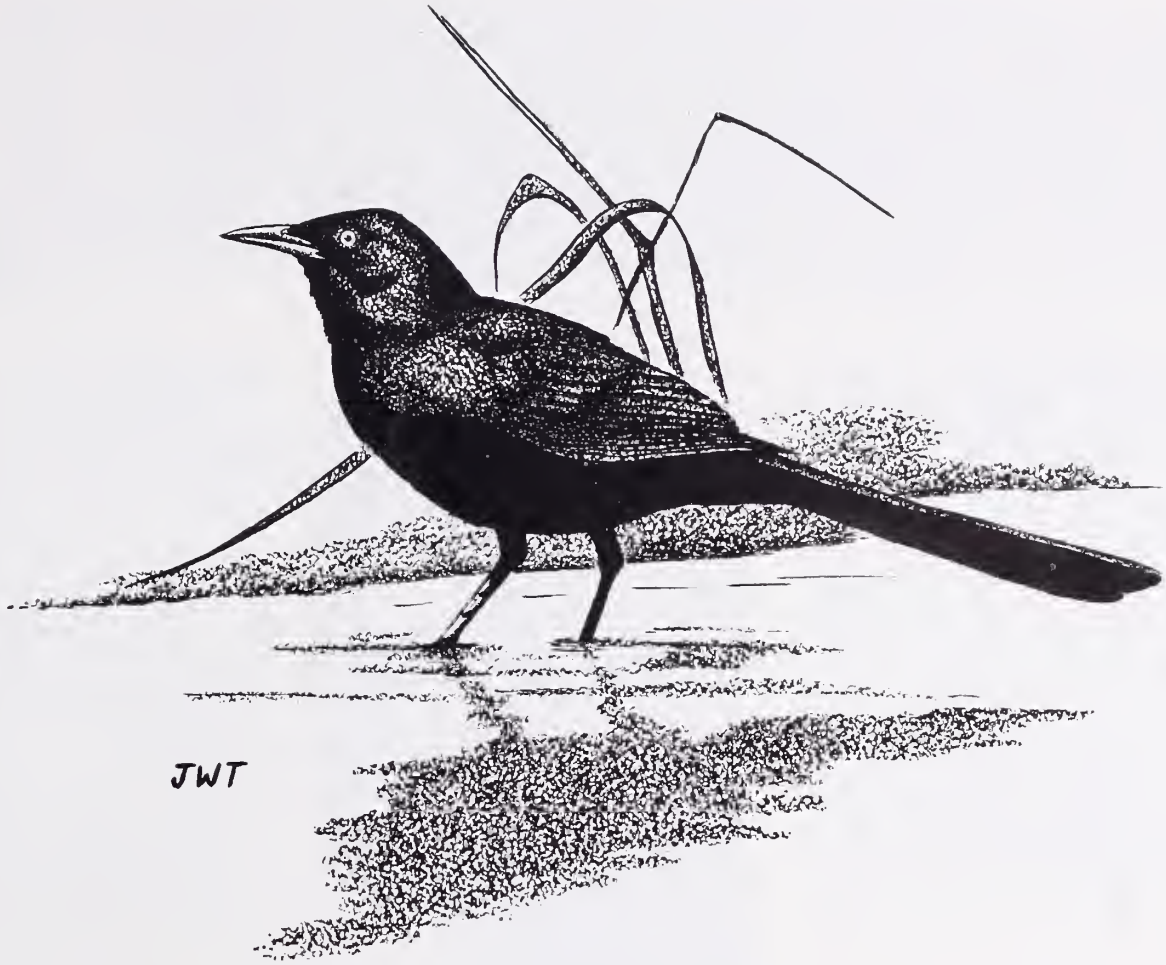
For many years, some of us have been preaching that the care of wild lands and wildlife demands attention to the full spectrum of land use, ranging from the city center to the most remote wilderness. I believe that we cannot preserve wilderness without attention to the quality of living within the cities. One cannot develop an appreciation of non-human nature in a slum.

At one time, I was most concerned about the resource exploiters who seemed intent upon ruining our lands, through bad farming, over-grazing, strip mining, or destructive logging. Today, however, I am running scared from the recreationists and their supporters in government—at least those who measure outdoor values with a stopwatch and a tally-whacker and feed the data into computers for use in

L. L. Rue III photos

Some species can continue to exist only if we preserve and protect large tracts of wild and remote lands from the kind of recreational developments that had best be provided on open lands in or near metropolitan areas.

planning, programming, and budgeting. The development of our wild and remote lands for the forms of mass recreational use that had best be handled by attention to open space in the city can destroy those lands more surely than their use by the logger or the sheepherder. The needs of great numbers must be met on the open lands and by the wildlife resources in or near the metropolitan centers. The needs of most hunters must be met on farm lands and managed forests. Wilderness and truly wild country must always be for the few who earn it. If roads open the wilderness to the many, there will be no wilderness there for them to see.



Boat-tailed Grackle

By DR. J. J. MURRAY
Lexington

TO this writer one of the most vivid early recollections of birds is that of a boyhood experience on Edisto Island in South Carolina, of a climb to and a fall from the nest of a boat-tailed grackle. "Jackdaws" we called them down there. The boy was small; the big nest seemed high; the eggs were much coveted. A scramble brought him to his goal, while his younger companions gazed in admiration. In the nest were four lovely eggs, pale blue and marked with black and brown scrawls.

The boy thought it would not matter if he took one of these eggs. For safety, that is for safety to the egg, he put it in his mouth and started down. Soon a limb broke with him. Down he went through the thorny branches. Of course, the egg broke too. Sad to say, it was well on the way to hatching. It was much later that morning before the horrible taste was gone and the humiliation forgotten by his companions. Maybe he did not get the moral; at least he learned what not to do with an egg.

Sometimes the boat-tailed grackle is confused with the more widely spread but smaller common grackle. There is no danger of this, if the birds are seen together. The long "boat tail" of this species, almost half as long as the bird's body, is unmistakable. The tail is seven inches long, opening into a fan shape. This grackle is a solid glossy bluish-black, with a purplish sheen on the head.

In Virginia this bird nests all along the coast, on both sides of Chesapeake Bay and down along Back Bay. Apparently it has become more common in recent years. The highest count I know of, 3030 birds on November 11, 1955, was made at Chincoteague Causeway by F. R. Scott and C. C. Steirly. It may be said that in Virginia the bird is never seen far from salt water. In Florida, on the other hand, it is found everywhere. Around Lake Eola in the business area of Orlando the antics of the bird provide an always appealing attraction for tourists.

The nest is bulky, with a cup of mud on a foundation of loose sticks and an inner cup of grass or seaweed. They nest in late April and May, although occasionally young or even eggs are found as late as July. Four of the interesting eggs are laid, sometimes more. The nests are built in thickets of high myrtles in the marsh, or in cedars.

The song, if such vocal struggles may be so called, consists of hoarse whistles and harsh cackles. They are very noisy birds. Audubon's rendering of a typical call is not bad, "crick, crip, cree."

Like most blackbirds, they are practically omnivorous. Anything, animal, vegetable, or even (for grit in the craw) mineral, is eaten. Frequently they nest close to colonies of green herons, doubtless for the opportunities for stealing eggs.

Edited by HARRY GILLAM

Dingell-Johnson Program Change Proposed

Mr. Samuel S. Stratton (N. Y.) has introduced H. B. 15618, a bill which seeks to revise financing for the Dingell-Johnson Federal Aid in Sport Fish restoration program. The measure would repeal the 10% excise tax on fishing tackle which has financed the program for the past 16 years and substitute an appropriation from general tax revenues. The fact that a $12 million annual ceiling was placed on this appropriation makes it look like a giant step forward compared to the approximately 6 million available annually under the present program, until one realizes that the exact amount appropriated will then depend entirely on the whims of Congress.

Under the present program all the monies collected from this source are earmarked for fish restoration work and are allocated to the state in proportion to their land area and fishing license sales. Virginia receives over $90,000 per year from Dingell-Johnson funds which it has to match with 25% state funds. Under the excise tax system now in use, the amount of these funds has been quite predictable, allowing state Fish and Game Commissions to plan their programs for maximum continuity and effectiveness. The available funds have been increasing at the rate of 5 to 10% per year as sales of fishing tackle have risen due to greater interest in fishing and greater numbers of fishermen.

Dingell-Johnson funds are especially important to states in that they can be used only for research and restoration projects. This assures that at least this portion of a state fish and game agency's budget is being invested in projects which will lead to improved fishing to meet coming demands. In Virginia, the monies are used to finance detailed evaluation of various fishing waters in the state, to study the effectiveness of various management techniques, and to construct public fishing lakes.

Lake Trout From Philpott

This is one of several lake trout which fishermen have taken from Philpott Reservoir since the Commission stocked this northern species a little over two years ago. This fish, caught by Jack Whitten, was 18 inches long and weighed 2 pounds. The fish were stocked as 4-inch fingerlings in December of 1963. These fish are actually a little slower growing than the rainbow, their large size coming from age rather than rapid growth.

Virginia Navy Installation Wins Conservation Award

The Naval Weapons Station, Yorktown, Virginia, was named winner of the Secretary of Defense Award for 1965. This marks the first time that a naval installation has won the award, created in 1962 to stimulate and give incentive to the Armed Forces for improving the level of conservation management of the 27 million acres of land they administer.

Runners-up for the 1965 Award were Wright-Patterson Air Force Base, Ohio, and the Naval Weapons Station, Charleston, South Carolina. The 1965 Award marks the first time that a relatively small installation has won. Previous winners have been the large Air Force and Army bases.

The Yorktown station supplied outdoor recreation for more than 50,000 persons during 1965, including civilians, with picnicking, fishing, boating, hunting and golf being the most popular activities. As part of its land management program, the Station sold nearly $40,000 worth of timber products, planted wildlife food and cover crops on 95 acres for soil erosion control, added or improved 77 acres of fishing waters, and rebuilt an old pier on York River for a station personnel and public fishing pier.

Fishery Unit

Ray Don Estes, 35, a Tennessee native, has been named assistant unit leader for the new Virginia Cooperative Fishery Unit at Virginia Tech. Part of the total natural resources program offered at Virginia Tech, the new unit is a cooperative venture among the Bureau of Sport Fisheries and Wildlife of the U. S. Department of the Interior, the Virginia Commission of Game and Inland Fisheries, and Virginia Tech.

Estes, who will be working on his doctorate, will do research and teaching in the field of fisheries management. This will include all aspects of sport fishing, as well as management of trout streams, reservoirs and hatcheries and work on stream pollution problems.

Before coming to Virginia Tech, Estes worked with the Bureau of Sport Fisheries and Wildlife at the University of Georgia. He also served for two years in Manila as fisheries advisor with the United Nations Food and Agricultural Organization.

He has also worked as a fisheries research biologist at the Fish Farming Experiment Station in Arkansas and as a district biologist for the Tennessee Game and Fish Commission. Other experience includes working for fish hatcheries in Arkansas and Florida.

Estes received his bachelor's and master's degrees in fisheries management from Auburn University. He and his wife are living in Blacksburg.

Edited by DOROTHY ALLEN

Gets First Wild Turkey

Warrenton *Fauquier Democrat* photo

Jerry Wilkes, 21-year-old son of Fauquier Game Warden and Mrs. Gordon Wilkes, brought down this 19.5 pound bird in the mountainous country of northwestern Fauquier. Jerry works with the Highway Department in Fairfax. Bringing down the wild turkey he described as his "biggest thrill since playing quarterback" at Warrenton High School, where he was a star football player.

Fish Rodeo

On Sunday, May 8, over 100 children attended the Annual Fishing Rodeo held at the Izaak Walton Park east of Winchester. The large lake was surrounded on all sides by the youngsters who were angling for rainbow trout stocked by the club. Many prizes were given to the youngsters who were lucky in catching some of the nice trout.

Commission Wardens David Ramsey and Blake Denney, and County Warden Henry Bursey helped conduct the rodeo and assisted the fishermen in handling their tackle.

The IWLA Winchester Club has 420 members and 165 acres of beautifully improved land. David Fahnestock is club president.

Pictured right:

John Foster received a trophy for catching the largest trout at the IWLA Winchester Fishing Rodeo. Left to right: Wardens Ramsey and Bursey, John, and Warden Denney.

Received Conservation Award

The Spotswood Trail Garden Club received the Virginia Federation of Garden Club's state award for conservation this year. They were awarded this honor primarily on their sponsoring of conservation projects for youth. Two of the projects they promoted were food patches and the bluebird project. The F.F.A. boys were responsible for making the bluebird houses.

Young Conservationists Meet in Washington, D. C.

Five hundred delegates, representing ten of the largest American youth agencies, attended the National Youth Conference on Natural Beauty and Conservation June 26-29. Leaders and educators in the conservation field and officials from government and private organizations, including Secretary of the Interior Udall, Secretary of Agriculture Freeman and Mrs. Freeman, Russell E. Train of the Conservation Foundation, and the President and Mrs. Johnson, addressed the conference.

The young delegates, each of whom attended two of the following workshops —citizen action, water and water fronts, antilitter, how to do it, parks and open spaces, ethics of conservation, education, roadside control, city beautification and air pollution—hope to enlist the help of other youths not interested in conservation at this time to follow through with state programs suggested by workshop speakers.

The Girl Scouts of the USA suggested the meeting to Mrs. Lyndon Johnson, and she worked with the youth groups in organizing it as a follow-up to the May 1965 White House Conference on Natural Beauty sponsored by American industry and foundations.

Citation Bass

Keith Dobson of Richmond caught this largemouth bass weighing 8 lbs. 12 oz. on a spinning rod in April.

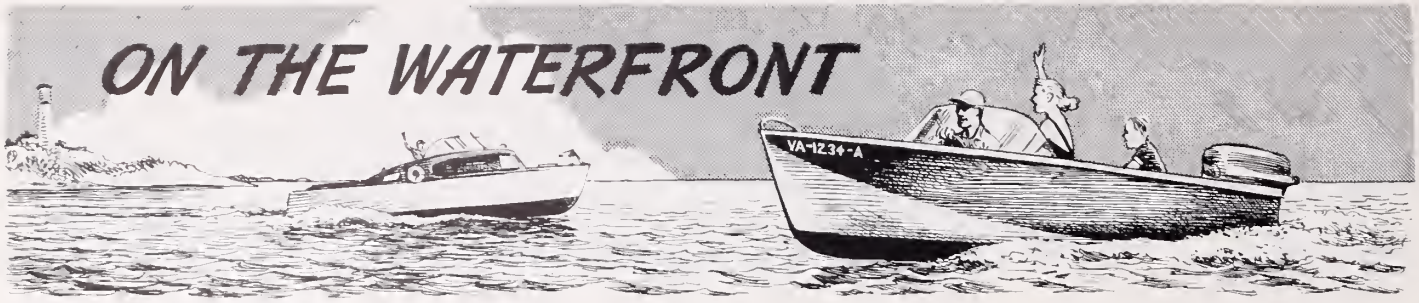
Book Review

ANIMALS THAT MADE U. S. HISTORY

By Edith Dorian

Animals, as well as people, have made the history of our country. To survive and to prosper, New England's colonies needed profitable cargoes to ship out. And the basis of New England's trade was her "priceless watery silvermine"—her fisheries, teeming with codfish, mackerel, haddock and pollock. During whaling's Golden Age, from 1825 through 1860, American whalemen supplied light for the lamps of their own country and for those of Europe as well. The fur trade was a goldmine. In this new book, Edith Dorian tells the story of the role played by wildlife in the development and growth of the nation. It is the story of the cod, the fish that saved New England; the beaver, empire-builder; the buffalo, the roadmaker; the horse, the "White Man's Magic Wolf," the whale and the sea otter, without whom we might be minus our 49th State. Finally there is the story of the American bald eagle, our national symbol.

Published by McGraw-Hill Book Company, Inc., 330 West 42nd Street, New York, N. Y. 10036. Price: $3.75.



Edited by JIM KERRICK

Skin Diving More Fun for Boatmen

Modern skin diving equipment has opened up a new world—the underwater world—to the boating family.

Literally millions of Americans are experimenting with snorkles, SCUBA equipment, flippers and fins. A brand new device is expected to further increase the number of underwater enthusiasts. It's the Aquanaut, a self-contained breathing system recently introduced by Evinrude Motors.

Although skin diving has been practiced for centuries, it's still considered a "baby" on the American sports scene. Its popularity can be traced to the invention of the Aqualung during World War II. Immediately following the war, Hollywood glorified the skin diving world in a series of movies. From here the native curiosity of Americans for something new, exciting and perhaps a little dangerous did the rest.

Although you don't have to be a Mr. America, the sport isn't for the weak of heart or body. Participants should be in reasonably good health and free of any respiratory or circulatory ailments. You should be a good swimmer and feel at ease in the water.

Skin diving is often called a "frame of mind." For those who enjoy the water, skin diving is a tremendously rewarding experience. For those who fear the water, it can be terrifying.

A snorkel and face mask are all you need to get started. Of course, you won't be going too far because you are dependent on your own lung power. The snorkel is only a surface diving device.

If you like snorkeling, SCUBA equipment and the Aquanaut are the keys to further exploration. SCUBA actually stands for "Self-Contained Underwater Breathing Apparatus" and refers to equipment like the Aqualung. This includes one or two tanks of compressed air which are fitted into a harness and strapped to the diver's back. Compressed air is fed to the diver via a hose fitted with a mouth piece. A regulator controls the amount and flow of air.

Floating Aquanaut System suitable for two divers.

The Aquanaut performs a similar function, but there are several important differences. Air is fed to the diver from a power-driven compressor mounted in an inflatable collar that floats on the surface. It permits two divers to swim together, in the recommended buddy system, for 40-55 minutes. The complete system includes two face masks, two 25-foot air hoses, 2 horsepower engine, twin compressors, flotation collar, exhaust tube and skin diving flag (red field with white diagonal stripe).

Evinrude Motors photos

Divers using self contained, back-type air supply tanks.

Any time you use an artificial device to supply air underwater, there are certain risks. Don't be the victim of an unnecessary accident. Most skin-diving techniques are common sense and easily learned. Your own marine dealer will probably be able to give you the name of a local instructor.

Thunderstorms Are Threat to Boating Fun

High temperatures and violent thunderstorms are summertime go-togethers. That's why the smart skipper keeps one eye on the weather, warns the Evinrude News Service.

Unless you want a dunking or worse, and perhaps serious damage to your boat, motor and equipment, it's good advice to stay ashore when you know a storm is approaching. Even when everything looks all clear, you should contact your local coast guard auxiliary or weather station for the latest report. Some radio stations also supply boating weather bulletins.

If you've been cruising for several hours and haven't had a chance to check with the experts, here are some signs to watch for. When the higher clouds are moving in one direction and lower clouds the opposite way, it's an indication that unsettled weather is on its way. A darkening of the skies or sudden drop in temperature are sure signs of trouble. Although you can sometimes ride out a mild rain, many summer storms pack a real wallop—high winds, heavy rains, even hail.

At the first sign of a coming storm, head for the nearest port of call. Boaters traditionally welcome a storm ridden friend. Perhaps they know what it's like to have an afternoon of boating ruined.

Despite these precautions you may still find yourself caught in a storm. Here are a few safe-landing tips. Have the passengers sit on the floor boards. This lowers the center of gravity and gives the boat greater stability.

Don't race to the nearest shore, advises Evinrude. Head directly into the waves at a low speed. Should the engine stop for any reason, drop the anchor, let out plenty of line and lay low until the storm passes.

Life jackets or preservers should be ready at the first sign of a storm. Keep cool and calm. Often panicky passengers are a greater hazard than the storm.

Teach them to hunt . . .

Safely!

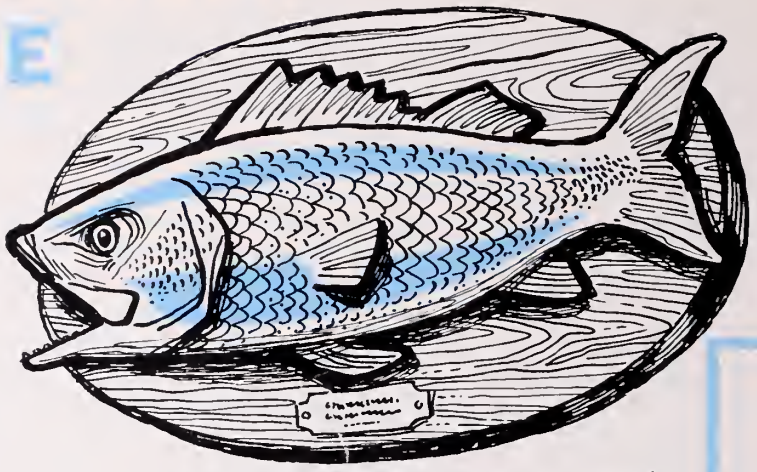
Young hunters need safety training

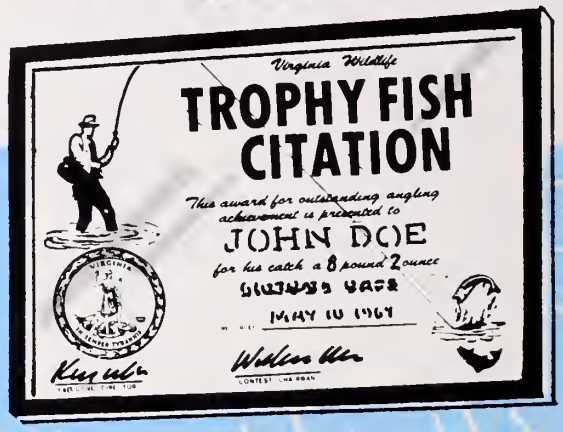
For help with a Hunter Safety Course for the youth of your community, write to the Safety Officer, Commission of Game and Inland Fisheries, P.O. Box 1642, Richmond, Virginia 23213

ALWAYS REMEMBER THAT BIG ONE

with a

VIRGINIA WILDLIFE TROPHY FISH CITATION . . .





CITATION SIZES FOR 1966

Largemouth Bass	8 lbs.
Smallmouth Bass	4 lbs.
Kentucky Bass	3 lbs.
Sunfish	1 lb.
Rock Bass	1 lb.
White Bass	2 lbs.
Crappie	2½ lbs.
Striped Bass	10 lbs.
Pickerel	4 lbs.
Walleye	8 lbs.
Brook or Brown Trout	2 lbs.
Other Trout	5 lbs.
Muskellunge	6 lbs.
Channel Cat	10 lbs.
Flathead Cat	20 lbs.
Carp	20 lbs.
Gar	10 lbs.
Grindle	10 lbs.

RULES:

Fish must be caught in Virginia Waters by legal methods during seasons open for the taking of the species involved.

Fish must be weighed at a public scales that is periodically inspected by the Commonwealth of Virginia.

Photographs are desirable as further proof of authenticity but are not required.

Non-residents as well as residents are eligible for citations if fish are caught under the above conditions.

Applications must be submitted within 60 days of the date of catch to be eligible.

APPLICATION FOR VIRGINIA FRESHWATER FISH CITATION

Angler's Name _____

Address _____

City _____ Zone _____ State _____

Kind of fish _____ Weight ____ lbs. ____ oz.; Length ____ inches

Where caught _____ Date caught _____

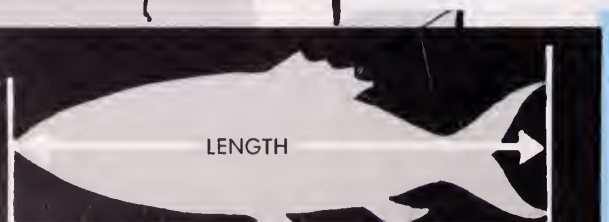
Weighed at _____ (store or other public scales)

Weighing witnessed by _____, _____
Signature Address

How caught—Fly Rod ☐ Spinning Rod ☐ Casting Rod ☐

Trot Line ☐ Other _____

COMMISSION OF GAME AND INLAND FISHERIES

P. O. BOX 1642 • RICHMOND, VIRGINIA 23213

HOW TO MEASURE: